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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,785	05/04/2005	Jeroen Wigard	60091.00389	6075

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EXAMINER	
SANTIAGO CORDERO, MARIVELISSE	
ART UNIT	PAPER NUMBER
2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,785	WIGARD ET AL.	
	Examiner	Art Unit	
	Marivelisse Santiago-Cordero	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-14 and 16-26* is/are rejected.

7)☒ Claim(s) *7 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed on 12/14/06, with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

However, since one of the references stilly apply, in response to Applicant's arguments that Raitola et al. (hereinafter "Raitola", cited in form PTO-892, paper no. 20060411) fails to disclose or suggest that bit rate classes or anything analogous thereto would be determined (Remarks: page 21, 1st paragraph), the Examiner respectfully disagrees.

Raitola discloses a lower priority class and a higher priority class. These classes are taken into account for bit rate modification (page 20, lines 19-32); thus, inherently, being determined. The term "determining" is a broad term, and claims are given their broadest and reasonable interpretation.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-16, 19-20, 23-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claims 1, 2, 9, 10, 19, 20, 23, and 24, the limitation "allocating resources ... by using the minimum bit rates" is unclear. The claims previously recite "minimum bit rates for the bit rate classes" and "a general minimum bit rate"; however, it is not clear if the minimum bit

rates used in allocating the resources are the "minimum bit rates for the bit rate classes" only or in addition with the "general minimum bit rate".

5. Claim 2 recites the limitation "the required number of bit rates" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

6. Regarding claims 5, 7, 8, 13, and 15, it is not clear if the claimed "general minimum bit rate" (lines 3, 2, 1, 2, and 4, respectively) is the same or different as the one mentioned in line 4 of claim 2, from which claims 5, 7, and 8 depend, and in line 5 of claim 10, from which claims 13 and 15 depend.

7. Regarding claim 11, it is not clear if the claimed "bit rate class determination unit" (line 3) is the same or different as the one mentioned in line 2 of claim 10, from which claim 11 depends.

8. Regarding claim 12, it is not clear if the claimed "bit rate class setter" (line 3) is the same or different as the one mentioned in line 4 of claim 10, from which claim 12 depends.

9. Claim 14 recites the limitation "the class specific minimum bit rate" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 17, 21, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Daniel et al. (hereinafter "Daniel"; Pub. No.: US 2004/0033806).

Regarding claim 17, Daniel discloses a base station comprising:

a resource arrangement unit configured to arrange resource requests into a queue (paragraphs [0222]-[0223]); and

a resource allocation unit configured to allocate resources in a telecommunication system according to the requests in the queue by using the minimum bit rates as bit rate allocation portions (paragraphs [0074]-[0076], [0149], [0205], [0218]-[0219], [0221], [0223], [0231], [0240], and [0257]-[0258]).

Regarding claims 21 and 25, which recite base station versions of claim 17, see rationale as previously discussed above.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 1-6, 8-14, and 16-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raitola in view of Daniel.

Regarding claim 1, Raitola discloses a data transmission method comprising:

determining a number of bit rate classes (page 20, lines 18-32; See also *Response to Arguments* section above);

setting a general minimum bit rate (Figs. 3-4; page 19, lines 11-30);

setting a maximum transmission power target (Figs. 3-4; page 10, lines 10-11);

arranging resource requests into a queue (Fig. 4; page 10, line 31 through col. 11, line 7); and

allocating resources in a telecommunication system according to the requests in the queue by using the minimum bit rate as bit rate allocation portion until the maximum power target is achieved (Figs. 3-4).

Raitola fails to specifically disclose setting minimum bit rates for the bit rate classes and allocating resources by using the minimum bit rates as bit rate allocation portions (note the plurality).

However, in the same field of endeavor, Daniel discloses determining a number of bit rate classes (page 5, paragraphs [0062]-[0066], [0068]-[0069], and [0073]); setting minimum bit rates for the bit rate classes (Fig. 4B; paragraphs [0074]-[0076], [0079], [0205]); arranging resource requests into a queue (paragraphs [0222]-[0223]), and allocating resources in a telecommunication system according to the requests in the queue by using the minimum bit rates as bit rate allocation portions (paragraphs [0149], [0205], [0218]-[0219], [0221], [0223], [0231], [0240], and [0257]-[0258]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to determine a number of bit rate classes of Raitola, set minimum bit rates for the bit rate classes and allocate resources by using the minimum bit rates as bit rate allocation portions as suggested by Daniel for the advantage of categorizing flows, all of which require the same type of resource treatment and allocation, used to maintain levels of service for a certain group or type of flows (Daniel: page 4, paragraphs [0052]-[0053]), and defining specific

quantitative treatment and flow parameters per class that guarantees a portion of bandwidth throughout the time of its passage through the system and is, by default, available to all service classes (Daniel: page 6, paragraphs [0074]-[0076] and [0019]).

Regarding claims 9, 19, and 23, which recite a radio network controller versions of claim 1, see rationale as previously discussed above (see also, Raitola: (page 9, lines 4-5)).

Regarding claim 2, Raitola discloses a data transmission method comprising:

determining a number of bit rate classes (page 20, lines 19-32; See also *Response to Arguments* section above);

setting a general minimum bit rate (Figs. 3-4; page 19, lines 11-30);

setting a maximum transmission power target ((Figs. 3-4; page 10, lines 10-11);

arranging resource requests into a queue (Fig. 4; page 10, line 31 through col. 11, line 7);

allocating resources in a telecommunication system according to the requests in the queue by using the minimum bit rate as bit rate allocation portion (Figs. 3-4);

if the maximum transmission power target is not achieved when resources have been allocated to all users in the queue, increasing bit rates based on the queue until the maximum transmission power target is achieved (Fig. 4); and

if the resource requests cause too much load in relation to the maximum transmission power target, decreasing the required number of bit rates in a predetermined way (Fig. 6; page 18, lines 5-10).

Raitola fails to specifically disclose setting minimum bit rates for the bit rate classes and allocating resources by using the minimum bit rates as bit rate allocation portions (note the plurality).

However, in the same field of endeavor, Daniel discloses determining a number of bit rate classes (page 5, paragraphs [0062]-[0066], [0068]-[0069], and [0073]); setting minimum bit rates for the bit rate classes (Fig. 4B; paragraphs [0074]-[0076], [0079], [0205]); arranging resource requests into a queue (paragraphs [0222]-[0223]), and allocating resources in a telecommunication system according to the requests in the queue by using the minimum bit rates as bit rate allocation portions (paragraphs [0149], [0205], [0218]-[0219], [0221], [0223], [0231], [0240], and [0257]-[0258]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to determine a number of bit rate classes of Raitola, set minimum bit rates for the bit rate classes and allocate resources by using the minimum bit rates as bit rate allocation portions as suggested by Daniel for the advantage of categorizing flows, all of which require the same type of resource treatment and allocation, used to maintain levels of service for a certain group or type of flows (Daniel: page 4, paragraphs [0052]-[0053]), and defining specific quantitative treatment and flow parameters per class that guarantees a portion of bandwidth throughout the time of its passage through the system and is, by default, available to all service classes (Daniel: page 6, paragraphs [0074]-[0076] and [0019]).

Regarding claims 10, 20, and 24, which recite a radio network controller versions of claim 2, see rationale as previously discussed above (see also, Raitola: (page 9, lines 4-5)).

Regarding claim 3, in the obvious combination, Daniel discloses further comprising determining the bit rate classes based on a required quality of service (paragraphs [0001], [0014], [0068]-[0069], and [0073]).

Regarding claim 11, which recites a radio network controller version of claim 3, see rationale as previously discussed above (see also, Raitola: (page 9, lines 4-5)).

Regarding claim 4, in the obvious combination, Daniel discloses further comprising setting the bit rate classes based on a quality of service parameter, wherein the quality of service parameter comprises allocation retention priority (paragraphs [0001], [0014], [0068]-[0069], and [0073]; note that the classes are fairly characterized as being set on the basis of Allocation Retention Priority since classes are prioritized).

Regarding claim 12, which recites a radio network controller version of claim 4, see rationale as previously discussed above (see also, Raitola: (page 9, lines 4-5)).

Regarding claim 5, in the obvious combination, Raitola discloses further comprising: when the maximum transmission power threshold is exceeded, decreasing the bit rate by allocating to a user a general minimum bit rate (Fig. 7b; page 20, lines 10-16; note that the general minimum bit rate is 128 kbps).

Regarding claim 13, which recites a radio network controller version of claim 5, see rationale as previously discussed above (see also, Raitola: (page 9, lines 4-5)).

Regarding claim 6, in the obvious combination, Raitola discloses further comprising: when the maximum transmission power threshold is exceeded, decreasing the bit rate by allocating to a user minimum bit rate (Fig. 6; page 20, lines 10-28).

Raitola fails to specifically disclose a class-specific minimum bit rate.

However, Daniel discloses allocating to a user a class-specific minimum bit rate.

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to decrease the bit rate of Raitola by allocating to a user a class-specific

minimum bit rate as suggested by Daniel for the advantages of complying with a guaranteed portion of the bandwidth, for flows sharing the same service type and priority level, to receive at least this amount of bandwidth resources as a minimum, throughout the period of its existence (Daniel: paragraphs [0068] and [0076]) and preventing loss of data.

Regarding claim 14, which recites a radio network controller version of claim 6, see rationale as previously discussed above (see also, Raitola: (page 9, lines 4-5)).

Regarding claim 8, in the obvious combination, Raitola discloses further comprising: if a general minimum bit rate or a class specific minimum bit rate is allocated to the users (Fig. 7b) and the load remains too high (Fig. 7b), transferring a required number of users to a control channel (Fig. 7b).

Regarding claim 16, which recites a radio network controller version of claim 8, see rationale as previously discussed above (see also, Raitola: (page 9, lines 4-5)).

Regarding claim 17, Raitola discloses a base station (page 9, lines 27-30) comprising:

a resource arrangement unit configured to arrange resource requests into a queue (Fig. 4; from page 9, line 31 through page 10, line 7); and

a resource allocation unit configured to allocate resources according to the requests in the queue by using minimum bit rate as bit rate allocation portion (Figs. 3-4; from page 9, line 31 through page 10, line 3).

Raitola fails to specifically disclose allocating resources by using minimum bit rates as bit rate allocation portions (note the plurality).

However, in the same field of endeavor, Daniel discloses resource arrangement unit configured to arrange resource requests into a queue (paragraphs [0022]-[0023]); and a resource

allocation unit configured to allocate resources according to the requests in the queue by using minimum bit rates as bit rates allocation portions (paragraphs [0074]-[0076], [0149], [0205], [0218]-[0219], [0221], [0223], [0231], [0240], and [0257]-[0258]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to allocate resources of Raitola by using minimum bit rates as bit rate allocation portions as suggested by Daniel for the advantage of categorizing flows, all of which require the same type of resource treatment and allocation, used to maintain levels of service for a certain group or type of flows (Daniel: page 4, paragraphs [0052]-[0053]), and defining specific quantitative treatment and flow parameters per class that guarantees a portion of bandwidth throughout the time of its passage through the system and is, by default, available to all service classes (Daniel: page 6, paragraphs [0074]-[0076] and [0019]).

Regarding claims 21 and 25, which recite base station versions of claim 17, see rationale as previously discussed above.

Regarding claim 18, Raitola discloses a base station (page 9, lines 27-30) comprising:

resource arrangement unit configured to arrange resource requests into a queue (Figs. 3-4; from page 9, line 31 through page 10, line 7);

a resource allocation unit configured to allocate resources according to the requests in the queue by using minimum bit rate as bit rate allocation portion (Figs. 3-4; from page 9, line 31 through page 10, line 3);

a bit rate increaser unit configured to increase bit rates based on the queue until a maximum target set for a transmission power is achieved (Fig. 4); and

a bit rate decreaser unit configured to decrease a required number of bit rates in a predetermined way (Fig. 6; page 20, lines 10-28).

Raitola fails to specifically disclose allocating resources by using minimum bit rates as bit rate allocation portions (note the plurality).

However, in the same field of endeavor, Daniel discloses resource arrangement unit configured to arrange resource requests into a queue (paragraphs [0022]-[0023]);

and a resource allocation unit configured to allocate resources according to the requests in the queue by using minimum bit rates as bit rates allocation portions (paragraphs [0149], [0205], [0218]-[0219], [0221], [0223], [0231], [0240], and [0257]-[0258]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to allocate resources of Raitola by using minimum bit rates as bit rate allocation portions as suggested by Daniel for the advantage of categorizing flows, all of which require the same type of resource treatment and allocation, used to maintain levels of service for a certain group or type of flows (Daniel: page 4, paragraphs [0052]-[0053]), and defining specific quantitative treatment and flow parameters per class that guarantees a portion of bandwidth throughout the time of its passage through the system and is, by default, available to all service classes (Daniel: page 6, paragraphs [0074]-[0076] and [0019]).

Regarding claims 22 and 26, which recite base station versions of claim 18, see rationale as previously discussed above (see also, Raitola: (page 9, lines 27-30)).

Allowable Subject Matter

14. Claims 7 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Liao et al. (Pub. No.: US 2004/0136379) discloses a method and apparatus for allocation of resources;
- Sastry et al. (Pub. No.: US 2003/0058871) discloses providing quality of service assurances for packet transmission;
- Schwengler et al. (Pub. No.: US 2003/0198209) discloses automatic bit rate allocation;
- Kalliokulju et al. (Patent No.: 6,618,591) discloses a mechanism for benefiting from minimum and maximum bi rates; and
- Chen et al. (Pub. No.: US 2003/0064730) discloses a resource control method.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marivelisse Santiago-Cordero whose telephone number is (571) 272-7839. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MSC 1/8/07

MSC

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